IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: David E. MCDYSAN *et al.*	Confirmation No.: 7587
Application No.: 09/723,480	Examiner: Bates, Kevin T
Filed: November 28, 2000	Group Art Unit: 2456
Attorney Docket No.: RIC00044	

For: MESSAGE, CONTROL AND REPORTING INTERFACE FOR A DISTRIBUTED NETWORK ACCESS SYSTEM

Commissioner for Patents
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

This Appeal Brief is submitted in support of the Notice of Appeal dated December 7, 2010.

I. REAL PARTY IN INTEREST

The real party in interest of the present application, solely for purposes of identifying and avoiding potential conflicts of interest by board members due to working in matters in which the member has a financial interest, is Verizon Communications Inc. and its subsidiary companies, which currently include Verizon Business Global, LLC (formerly MCI, LLC) and Cellco Partnership (doing business as Verizon Wireless, and which includes as a minority partner affiliates of Vodafone Group Plc). Verizon Communications Inc. or one of its subsidiary companies is an assignee of record of the present application.

II. RELATED APPEALS AND INTERFERENCES

An Appeal was filed in related Applications Serial No. 09/723,481 and Serial No. 09/723,501. A Decision by the Board on August 18, 2008 reversing the Examiner in Serial No. 09/723,501 resulted in U.S. Patent No. 7,657,628.

A previous Board Decision in the present application was rendered September 17, 2009 affirming the Examiner, with a Decision on Rehearing of March 31, 2010, denying Appellants' Request for Rehearing. The claims have since been amended to include features not before the Board in the previous Appeal. For example, the features of "processing, by the programmable access device, the messages from the first network **to distinguish between various message types and to establish a first subset of the received messages and a second subset of the received messages**" and "routing the second subset of the received messages not communicated to the external processor, **via the access router**, from the network access system via a second network interface…," as in independent claim 1, for example.

III. STATUS OF THE CLAIMS

Claims 1-43 are pending in this appeal. Claims 3, 9, 13, 15, 16, 18, 19, and 22-39 are original claims while claims 1, 2, 4-8, 10-12, 14, 17, 20, 21, and 40-43 were previously presented. No claim is allowed. This appeal is therefore taken from the final rejection of claims 1-43 on October 22, 2010.

IV. STATUS OF AMENDMENTS

No amendment has been filed subsequent to the issuance of the Final Office Action on October 22, 2010.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The claimed invention addresses problems associated with distributed network access systems. In particular, in order to overcome the conventional disadvantages of a monolithic router architecture which are not scalable, flexible, or extensible, monolithic, proprietary edge routers are replaced with a distributed network access system that allocates the functionality of traditional edge routers among three logical modules: a programmable access device for performing forwarding and generic traffic conditioning functions such as marking, policing, monitoring, shaping, and filtering; an external processor for performing service functions such as message interpretation, signaling, admission control, and policy invocation; and an access router for performing basic routing of packets between input and output ports of the access network..

Independent claim 1 recites:

1. A method of communication in a network access system, whereby functionality of the network access system is distributed among an external processor (See, e.g., Fig. 2, element 42; Specification, page 11, line 23), a programmable access device (See, e.g., Fig. 2, element 40; Specification, page 11, lines 22-23), and an access router (See, e.g., Fig. 2, element 44; Specification, page 11, lines 22-23; page 13, lines 13-24), said method comprising:

receiving a control message from the external processor (See, e.g., Fig. 2, element 42; Specification, page 11, line 23), by the programmable access device (See, e.g., Fig. 2, element 40; Specification, page 11, lines 22-23), to establish a configuration of the programmable access device (See, e.g., Specification, page 12, lines 30-31);

receiving, by the programmable access device, messages from a first network external to the network access system via a first network interface (See, e.g., Fig. 3; Specification, page 14, lines 7-32);

processing, by the programmable access device, the messages from the first network to distinguish between various message types and to establish a first subset of the received messages and a second subset of the received messages (See, e.g., Fig. 2, PAD 40; Specification, page 11, line 24-page 12, line 15);

communicating the first subset of the received messages from the programmable access device to the external processor for service processing in accordance with the configuration (See, e.g., Fig. 2, PAD 40, external processor 42; Specification, page 12, lines 4-6); and

routing the second subset of the received messages not communicated to the external processor, via the access router, from the network access system via a second network interface different from the first network interface to a second network external to the network access system, wherein the second network is different from the first network (See, e.g., Fig. 2, PAD 40, access router 44; Specification, page 11, line 28-page 12, line 4).

Independent claim 21 recites:

21. A network access system, whereby functionality of the network access system is distributed among an external processor (See, e.g., Fig. 2, element 42; Specification, page 11, line 23), a programmable access device (See, e.g., Fig. 2, element 40; Specification, page 11, lines 22-23), and an access router (See, e.g., Fig. 2, element 44; Specification, page 11, lines 22-23; page 13, lines 13-24), comprising:

an external processor (See, e.g., Fig. 2, element 42; Specification, page 11, line 23) that transmits a control message specifying a configuration (See, e.g., Specification, page 12, lines 30-31);

a programmable access device (See, e.g., Fig. 2, element 40; Fig. 3; Specification, page 11, lines 22-23) that receives messages from a first network external to the network access system via a first network interface, processes the messages from the first network to distinguish between various message types (See, e.g., Figs 2 and 3; Specification, page 14, lines 7-32), establishes a first subset of the received messages and a second subset of the received messages (See, e.g., Fig. 2, PAD 40; Specification, page 11, line 24-page 12, line 15); and

an access router (See, e.g., Fig. 2, element 44; Specification, page 11, lines 22-23; page 13, lines 13-24);

wherein, responsive to the control message, the programmable access device establishes the configuration specified by the control message and communicates the first subset of the received messages to the external processor for service processing in accordance with the configuration (See, e.g., Fig. 2, PAD 40, external processor 42; Specification, page 12, lines 4-6), and forwards the second subset of the received messages not communicated to the external processor to the access router for routing, via a second network interface different from the first network interface, to a second network external to the network access system, wherein the second network is different from the first network (See, e.g., Fig. 2, PAD 40, access router 44; Specification, page 11, line 28-page 12, line 4).

Independent claim 40 recites:

40. A distributed router comprising:

a first network interface (See, e.g., Figs 2 and 3, elements 32, 34; Specification, page 14, lines 7-9) through which packets are communicated with a first network;

a second network interface (See, e.g., Fig. 3 "Access Network") different from the first network interface through which packets are communicated with a second network different from the first network;

a programmable access device configured to input messages from the first network via the first network interface (See, e.g., Figs 2 and 3, element 40; Specification, pages 11-12);

an external processor (See, e.g., Fig. 2, element 42) configured to receive, from the programmable access device, a first subset of the input messages and to transmit a control message to the programmable access device specifying a configuration to control the selection of the first subset (See, e.g. Specification, page 12, lines 7-31; Figs. 2 and 3); and

an access router (See, e.g., Fig. 2, element 44; Specification, page 11, lines 22-23; page 13, lines 13-24) configured to route messages between input and output ports of an access network,

wherein the programmable access device forwards a second subset of the input messages not received by the external processor to the access router for routing via the second network interface to the second network (See, e.g., Fig. 2, PAD 40, access router 44; Specification, page 11, line 28-page 12, line 4).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-4, 7-9, 12, 13, 17, 20-24, 27, 28, 31, 32, 36, 39, and 40 were rejected for obviousness under 35 U.S.C §103(a) based on *Albert et al.* (US 6,606,316) in view of *Gai* (US 6,167,445).

Claims 5 and 25 were rejected for obviousness under 35 U.S.C. §103(a) based on *Albert et al.* (US 6,606,316) and *Gai* (US 6,167,445) in view of *Haas* (US 5,115,432).

Claims 16, 18, 35, and 37 were rejected for obviousness under 35 U.S.C. §103(a) based on *Albert et al.* (US 6,606,316) and *Gai* (US 6,167,445) in view of *Feldman et al.* (US 6,055,561).

Claims 19 and 38 were rejected for obviousness under 35 U.S.C. §103(a) based on *Albert et al.* (US 6,606,316) and *Gai* (US 6,167,445) in view of *Grant et al.* (US 5,027,269).

Claims 10, 11, 29, and 30 were rejected for obviousness under 35 U.S.C. §103(a) based on *Albert et al.* (US 6,606,316) and *Gai* (US 6,167,445) in view of *Gai et al.* (US 6,651,096).

Claims 6, 14, 15, 26, 33, 34, 42, and 43[1] were rejected for obviousness under 35 U.S.C. §103(a) based on *Albert et al.* (US 6,606,316) and *Gai* (US 6,167,445) in view of *Gibson et al.* (US 6,680,943).

Claim 41 was rejected for obviousness under 35 U.S.C. §103(a) based on *Albert et al.* (US 6,606,316) and *Gai* (US 6,167,445) in view of *Mo et al.* (US 7,133,403).

[1] While claims 42 and 43 were not included in the statement of rejection in the Final Office Action of October 22, 2010, it is apparent from their inclusion in the explanation of the rejection, at pages 12-13 of the Final Office Action, that their omission by the Examiner was unintentional.

VII. ARGUMENT

A. CLAIMS 1-4, 7-9, 12, 13, 17, 20-24, 27, 28, 31, 32, 36, 39, AND 40 ARE NOT RENDERED OBVIOUS BY *ALBERT ET AL.* AND *GAI* (445) BECAUSE *ALBERT ET AL.* DOES NOT TEACH THE TRANSMISSION OF THE "SECOND SUBSET FROM THE PROGRAMMABLE ACCESS DEVICE THROUGH THE ACCESS ROUTER TO THE SECOND EXTERNAL NETWORK AND *GAI* (445) IS OF NO HELP IN THIS REGARD.

The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention under any statutory provision always rests upon the Examiner. *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1451 (Fed .Cir. 1997); *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Bell*, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In rejecting a claim under 35 U.S.C. §103, the Examiner is required to provide a factual basis to support the obviousness conclusion. *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967); *In re Lunsford*, 357 F.2d 385, 148 USPQ 721 (CCPA 1966); *In re Freed*, 425 F.2d 785, 165 USPQ 570 (CCPA 1970).

Independent claim 1 recites, *inter alia*, "processing, by the programmable access device, the messages from the first network to distinguish between various message types and to **establish a first subset of the received messages and a second subset of the received messages** and **routing the second subset** of the received messages not communicated to the external processor, **via the access router**, from the network access system **via a second network interface different from the first network interface to a second network external** to the network access system, wherein the second network is different from the first network." Independent claims 21 and 40 recite similar features with varying scope.

Albert et al. is devoid of any teaching of the claimed first and second subsets of received messages, wherein the second subset is routed, **via the access router**, via a second network

interface different from the first network interface, to a second network external to the network access system. In fact, *Albert et al.* is completely devoid of an "access router." The Examiner acknowledged that *Albert et al.* lacks a teaching of the second subset "transmitted from the programmable access device through **another** access router to the second external network" (Final Office Action-page 4). Appellants note that the interpretation by the Examiner is flawed because the claims recite only one "access router." There is no "another" access router. Moreover, *Albert et al.* does not teach the transmission of the "second subset" from the programmable access device **through the access router** to the second external network, at least because *Albert et al.* does not teach an "access router" at all.

The Examiner relied on *Gai et al.* (445) to cure the deficiency of *Albert et al.*, specifically indicating col. 12, lines 19-67, and Fig. 3, intermediate device 318, and "access router" 312 of *Gai et al.* (US 6,167,445) as teaching the access router through which the second subset is transmitted to the second external network. Appellants respectfully disagree.

Initially, it is noted that element 312 of *Gai et al.* (445) is a switch, and not an access router. While an access router forwards packets, a switch merely completes an electrical connection between two elements. Therefore, element 312 of *Gai et al.* (445) cannot correspond to the claimed "access router."

In any event, element 318 of *Gai et al.* (445) is a router and permits the forwarding of packets between and among network 304, policy server 322, server 350, and end stations 340-346. However, router 318 does not route "the second subset of the received messages not communicated to the external processor…from the network access system via a second network interface different from the first network interface to a second network external to the network access system, wherein the second network is different from the first network." Router 318 does

route signals between network domains 302 and 304, but it does not route a "second subset of the received messages not communicated to the external processor," wherein messages received by a programmable access device are processed by the programmable access device to establish a first and second subset of messages by distinguishing between various message types.

Since there is no programmable access device in *Gai et al.* (445) for establishing the claimed first and second subsets, and, therefore, the router 318 of *Gai et al.* (445) does not receive the claimed "second subset" to forward to the second network, and *Albert et al.* lacks any suggestion of an access router for forwarding the second subset to the second network, there is no suggestion in the combination that would have led the person of ordinary skill in the art to extract the router 318 of *Gai et al.* (445) and place it in the system of *Albert et al.*, ostensibly somewhere between the forwarding agent 231 and the group of servers 220. Only Appellants' disclosure suggests that modification and a conclusion of obviousness based on hindsight, using Appellants' claims as a guide, is not permissible within the meaning of 35 U.S.C. §103(a).

The rationale for the proposed combination of references is "to expand Albert's system instead of just operating as a forwarding agent for host servers it can operate to provide services and forwarding functions for an entire network including other routers to allow a more diverse implementation of the system" (Final Office Action-page 4). This rationale for concluding obviousness a mere generalization, falling far short of the "articulated reasoning with some rational underpinnings" required by the U.S. Supreme Court, *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1385 (2007). Moreover, the use of a router 318 in *Gai et al.* (445) does not suggest an "expansion" of the *Albert et al.* system "to provide services and forwarding functions for an entire network." *Albert et al.* already provides forwarding services by forwarding flows of packets depending on instructions issued by the service managers. There

would have been no need of an "access router," as claimed, in *Albert et al.* and, in fact, such an access router would disrupt the operation of the *Albert et al.* system since the forwarding agents 231, 232, employed as corresponding to the claimed programmable access device, do the routing in accordance with instructions from service managers 241 and 242.

Further, the Examiner cited col. 12, lines 19-67 of *Gai et al.* (445) {see page 4 of the Final Office Action), but this cited portion relates, in part, to accepting traffic that belongs to a specific group and any "traffic that does not belong to the group **should be dropped**" (lines 30-31, emphasis added). Thus, in *Gai et al.* (445), either packets are accepted for forwarding or they are dropped. This is substantially different from dividing packets or messages into two subsets, with one subset forwarded one way and the other subset forwarded another way. The claimed invention does not drop any messages, and there would have been no suggestion from dropping packets that do not belong to a certain group, as in *Gai et al.* (445), to, instead, forward messages in two different ways depending on the subset. While Appellants understand that it is *Albert et al.* that is relied on for dividing messages into two subsets and forwarding the messages to different destinations depending on the subset, the point is that since *Gai et al.* (445) describes a system so different from *Albert et al.*, that there would have been no reason for the person of ordinary skill in the art to take the router 318 of *Gai et al.* (445) and force-fit it into the system of *Albert et al.*, which already discloses a way to forward messages without the use of an access router, as claimed.

Accordingly, the combination of *Albert et al.* and *Gai et al.* (445) is improper and the combination, even if made, would not result in the instant claimed subject matter. Therefore, reversal, by the Honorable Board, of the rejection of claims 1-4, 7-9, 12, 13, 17, 20-24, 27, 28, 31, 32, 36, 39, and 40 as obvious under 35 U.S.C. §103(a) is respectfully solicited.

B. CLAIMS 5 AND 25 ARE NOT RENDERED OBVIOUS BY *ALBERT ET AL.* AND GAI (445) IN VIEW OF *HAAS* BECAUSE *HAAS* DOES NOT CURE THE DEFICIENCIES OF *ALBERT ET AL.* AND *GAI* (445).

Haas, relied on for the asserted teaching of an access device configured to include a policy including a retransmissions policy, fails to cure the previously argued deficiencies of *Albert et al.* and *Gai* (445).

Accordingly, since the combination of references fails to establish a *prima facie* case of obviousness, reversal, by the Honorable Board, of the Examiner's rejection of claims 5 and 25 under 35 U.S.C. §103(a) is respectfully solicited.

C. CLAIMS 16, 18, 35, AND 37 ARE NOT RENDERED OBVIOUS BY *ALBERT ET AL.* AND GAI (445) IN VIEW OF *FELDMAN* BECAUSE *FELDMAN* DOES NOT CURE THE DEFICIENCIES OF *ALBERT ET AL.* AND *GAI* (445).

Feldman, relied on for the asserted teaching of acknowledgement and keepalive messages communicated between network nodes, fails to cure the previously argued deficiencies of *Albert et al.* and *Gai* (445).

Accordingly, since the combination of references fails to establish a *prima facie* case of obviousness, reversal, by the Honorable Board, of the Examiner's rejection of claims 16, 18, 35, and 37 under 35 U.S.C. §103(a) is respectfully solicited.

D. CLAIMS 19 AND 38 ARE NOT RENDERED OBVIOUS BY *ALBERT ET AL.* AND GAI (445) IN VIEW OF *GRANT ET AL.* BECAUSE *GRANT ET AL.* DOES NOT CURE THE DEFICIENCIES OF *ALBERT ET AL.* AND *GAI* (445).

Grant et al., relied on for the asserted teaching of failure recovery, wherein a request for the state of session information is sent when data is lost, fails to cure the previously argued deficiencies of *Albert et al.* and *Gai* (445).

Accordingly, since the combination of references fails to establish a *prima facie* case of obviousness, reversal, by the Honorable Board, of the Examiner's rejection of claims 19 and 38 under 35 U.S.C. §103(a) is respectfully solicited.

E. CLAIMS 10, 11, 29, AND 30 ARE NOT RENDERED OBVIOUS BY *ALBERT ET AL.* AND GAI (445) IN VIEW OF *GAI* (096) BECAUSE *GAI* (096) DOES NOT CURE THE DEFICIENCIES OF *ALBERT ET AL.* AND *GAI* (445).

Gai (096), relied on for the asserted teaching of controlling the configuration of an access device that includes making configuration changes to a scheduler and further includes one or more output queues, fails to cure the previously argued deficiencies of *Albert et al.* and *Gai* (445).

Accordingly, since the combination of references fails to establish a *prima facie* case of obviousness, reversal, by the Honorable Board, of the Examiner's rejection of claims 10, 11, 29, and 30 under 35 U.S.C. §103(a) is respectfully solicited.

F. CLAIMS 6, 14, 15, 26, 33, 34, 42, AND 43 ARE NOT RENDERED OBVIOUS BY *ALBERT ET AL.* AND GAI (445) IN VIEW OF *GIBSON ET AL.* BECAUSE *GIBSON ET AL.* DOES NOT CURE THE DEFICIENCIES OF *ALBERT ET AL.* AND *GAI* (445).

Gibson et al., relied on for the asserted teaching of a network node remotely configured, including configuring a session to have a guaranteed quality of service, allowing a minimum threshold of activity to a connection session, fails to cure the previously argued deficiencies of *Albert et al.* and *Gai* (445).

Accordingly, since the combination of references fails to establish a *prima facie* case of obviousness, reversal, by the Honorable Board, of the Examiner's rejection of claims 6, 14, 15, 26, 33, 34, 42, and 43 under 35 U.S.C. §103(a) is respectfully solicited.

G. CLAIM 41 IS NOT RENDERED OBVIOUS BY *ALBERT ET AL.* AND GAI (445) IN VIEW OF *MO ET AL.* BECAUSE *MO ET AL.* DOES NOT CURE THE DEFICIENCIES OF *ALBERT ET AL.* AND *GAI* (445).

Mo et al., relied on for the asserted teaching of a network access system having edge routers and internal routers, with an access router comprising a forwarding table, and Exterior Gateway Protocol (EGP) and Interior Gateway Protocol (IGP) routing tables, fails to cure the previously argued deficiencies of *Albert et al.* and *Gai* (445).

Accordingly, since the combination of references fails to establish a *prima facie* case of obviousness, reversal, by the Honorable Board, of the Examiner's rejection of claim 41 under 35 U.S.C. §103(a) is respectfully solicited.

VIII. CONCLUSION AND PRAYER FOR RELIEF

For the foregoing reasons, Appellants request the Honorable Board to reverse each of the Examiner's rejections.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 504213 and please credit any excess fees to such deposit account.

Respectfully Submitted,

DITTHAVONG MORI & STEINER, P.C.

December 16, 2010
Date

/Phouphanomketh Ditthavong/
Phouphanomketh Ditthavong
Attorney for Applicant(s)
Reg. No. 44658

Errol A. Krass
Attorney for Applicant(s)
Reg. No. 60090

918 Prince Street
Alexandria, VA 22314
Tel. (703) 519-9952
Fax (703) 519-9958

IX. CLAIMS APPENDIX

1. A method of communication in a network access system, whereby functionality of the network access system is distributed among an external processor, a programmable access device, and an access router, said method comprising:

receiving a control message from the external processor, by the programmable access device, to establish a configuration of the programmable access device;

receiving, by the programmable access device, messages from a first network external to the network access system via a first network interface;

processing, by the programmable access device, the messages from the first network to distinguish between various message types and to establish a first subset of the received messages and a second subset of the received messages;

communicating the first subset of the received messages from the programmable access device to the external processor for service processing in accordance with the configuration; and

routing the second subset of the received messages not communicated to the external processor, via the access router, from the network access system via a second network interface different from the first network interface to a second network external to the network access system, wherein the second network is different from the first network.

2. The method of Claim 1, wherein:

receiving a control message comprises receiving a filter control message to establish a configuration of a packet header filter in the programmable access device; and

communicating messages comprises communicating network messages filtered from a packet flow by the packet header filter of the programmable access device.

3. The method of Claim 2, and further comprising limiting communication of network messages from the programmable access device to the external processor by sending the programmable access device a message setting message interface flags in the programmable access device.

4. The method of Claim 1, wherein:

receiving a control message comprises receiving a monitor control message to establish a configuration of a monitor in the programmable access device; and

communicating messages comprises communicating reporting messages from the programmable access device to the external processor in response to the configuration of the monitor.

5. The method of Claim 4, wherein receiving a monitor control message comprises receiving a control message to establish a threshold number of allowed retransmissions.

6. The method of Claim 4, wherein receiving a monitor control message comprises receiving a threshold activity level.

7. The method of Claim l, wherein receiving a control message comprises receiving a policer control message to establish a configuration of a policer in the programmable access device.

8. The method of Claim 1, wherein receiving a control message comprises receiving a forwarding table control message to establish a configuration of a forwarding table in the programmable access device.

9. The method of Claim 8, wherein establishing a configuration of a forwarding table comprises establishing a new forwarding table in the programmable access device.

10. The method of Claim l, wherein receiving a control message comprises receiving a control message to establish a configuration of a scheduler and one or more associated output buffers in the programmable access device.

11. The method of Claim 1, wherein receiving a control message comprises receiving a shaper control message to establish a configuration of a shaper in the programmable access device.

12. The method of Claim 1, wherein:

receiving a control message from the external processor, to the programmable access device, to establish a configuration of the programmable access device comprises receiving a control message specifying a source from which packets are not to be accepted; and

the method further comprises dropping packets from the specified source by the programmable access device.

13. The method of Claim 1, and further comprising in response to service processing by the external processor, injecting a packet from the external processor into packet flow through the programmable access device.

14. The method of Claim 1, wherein

receiving a control message from the external processor, to the programmable access device, to establish a configuration of the programmable access device comprises receiving a session deletion control message; and

the method further comprises the programmable access device deleting a session specified by the session deletion control message.

15. The method of Claim 1, and further comprising the external processor signaling network hardware to establish a network connection in response to receipt of a message from the programmable access device.

16. The method of Claim 1, and further comprising exchanging keepalive messages between the external processor and the programmable access device.

17. The method of Claim 1, wherein receiving a control message comprises accessing a control processor on the external processor via an application programming interface.

18. The method of Claim 1, and further comprising in response to said control message, sending an acknowledgement from said programmable access device to said external processor.

19. The method of Claim 1, and further comprising communicating a state of a session from the programmable access device to the external processor in response to failure of a service controller servicing the session in the external processor.

20. The method of Claim 1, wherein receiving a control message comprises receiving a control message via an intermediate communication network.

21. A network access system, whereby functionality of the network access system is distributed among an external processor, a programmable access device, and an access router, comprising:

an external processor that transmits a control message specifying a configuration;

a programmable access device that receives messages from a first network external to the network access system via a first network interface, processes the messages from the first

network to distinguish between various message types, establishes a first subset of the received messages and a second subset of the received messages; and

an access router;

wherein, responsive to the control message, the programmable access device establishes the configuration specified by the control message and communicates the first subset of the received messages to the external processor for service processing in accordance with the configuration, and forwards the second subset of the received messages not communicated to the external processor to the access router for routing, via a second network interface different from the first network interface, to a second network external to the network access system, wherein the second network is different from the first network.

22. The network access system of Claim 21, wherein:

the programmable access device includes a packet header filter;

the control message comprises a filter control message that establishes a configuration of the packet header filter; and

the messages communicated by the programmable access device comprise network messages filtered from a packet flow by the packet header filter of the programmable access device.

23. The network access system of Claim 22, said external processor comprising means for limiting communication of network messages from the programmable access device to the external processor by sending the programmable access device a message setting message interface flags in the programmable access device.

24. The network access system of Claim 21, wherein:

the programmable access device comprises a monitor for network traffic;

the control message comprises a monitor control message that specifies a configuration of the monitor; and

the messages communicated by the programmable access device comprise reporting messages in accordance with the configuration.

25. The network access system of Claim 24, wherein the control message specifies a threshold number of allowed retransmissions.

26. The network access system of Claim 24, wherein the monitor control message specifies a threshold activity level.

27. The network access system of Claim 21, wherein:

the programmable access device comprises a policer, and

the control message comprises a policer control message that specifies a configuration of the policer.

28. The network access system of Claim 21, wherein the control message comprises a forwarding table control message that specifies a configuration for a forwarding table.

29. The network access system of Claim 21, wherein:

the programmable access device comprises one or more output buffers for outgoing packets and an associated scheduler; and

the control message specifies a configuration of the scheduler and the one or more output buffers.

30. The network access system of Claim 21, wherein:

the programmable access device comprises a shaper; and

the control message comprises a shaper control that specifies a configuration of the shaper.

31. The network access system of Claim 21, wherein:

the control message specifies a source from which packets are not to be accepted; and

the programmable access device comprises means for dropping packets from the specified source.

32. The network access system of Claim 21, said external processor comprising means, responsive to service processing by the external processor, for injecting a packet into packet flow through the programmable access device.

33. The network access system of Claim 21, wherein

the control message comprises a session deletion control message; and

the programmable access device comprises means for deleting a session specified by the session deletion control message.

34. The network access system of Claim 21, wherein the external processor comprises a signaling processor that signals network hardware to establish a network connection in response to a message received from the programmable access device.

35. The network access system of Claim 21, said external processor and said programmable access device each comprising means for exchanging keepalive messages.

36. The network access system of Claim 21, wherein the external processor comprises a control processor that outputs said control message and an application programming interface through which said control processor is accessed.

37. The network access system of Claim 21, said programmable access device comprising means, responsive to said control message, for sending an acknowledgement to said external processor.

38. The network access system of Claim 21, wherein:

the external processor comprises a plurality of service controllers that provide service processing; and

the programmable access device comprises means for communicating a state of a session to the external processor in response to failure of a service controller servicing the session.

39. The network access system of Claim 21, and further comprising a network coupling the external processor and the programmable access device.

40. A distributed router comprising:

a first network interface through which packets are communicated with a first network;

a second network interface different from the first network interface through which packets are communicated with a second network different from the first network;

a programmable access device configured to input messages from the first network via the first network interface;

an external processor configured to receive, from the programmable access device, a first subset of the input messages and to transmit a control message to the programmable access device specifying a configuration to control the selection of the first subset; and

an access router configured to route messages between input and output ports of an access network,

wherein the programmable access device forwards a second subset of the input messages not received by the external processor to the access router for routing via the second network interface to the second network.

41. The network access system of Claim 21, wherein the access router comprises a forwarding table, and Exterior Gateway Protocol (EGP) and Interior Gateway Protocol (IGP) routing tables.

42. The network access system of Claim 21, further comprising:

a third network coupling the programmable access device to the access router.

43. The network access system of Claim 42, wherein the coupling is made via one of an Asynchronous Transfer Mode (ATM) switch and a Multi-Protocol Label Switching (MPLS) switch.

X. EVIDENCE APPENDIX

Appellants are unaware of any evidence that is required to be submitted in the present Evidence Appendix.

XI. RELATED PROCEEDINGS APPENDIX

Appellants are unaware of any related proceedings that are required to be submitted in the present Related Proceedings Appendix.